

## Order Of Operations Worksheets Answer Key PDF

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### Part 1: Building a Foundation

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**Which of the following correctly represents the order of operations?**

undefined. A) Addition, Subtraction, Multiplication, Division, Parentheses, Exponents

**undefined. B) Parentheses, Exponents, Multiplication and Division, Addition and Subtraction ✓**

undefined. C) Multiplication, Division, Addition, Subtraction, Parentheses, Exponents

undefined. D) Exponents, Parentheses, Addition, Subtraction, Multiplication, Division

The correct order of operations is Parentheses, Exponents, Multiplication and Division, Addition and Subtraction.

**Which of the following are true about the order of operations? (Select all that apply)**

**undefined. A) It ensures consistent results in calculations. ✓**

undefined. B) Multiplication always comes before division.

**undefined. C) Parentheses are solved first. ✓**

undefined. D) Addition is always performed before subtraction.

The order of operations ensures consistent results, and parentheses are solved first.

**Explain why the order of operations is important in mathematics.**

**The order of operations is important because it provides a standard way to evaluate expressions, ensuring that everyone arrives at the same result.**

**List the steps in the PEMDAS order of operations.**

1. What is the first step?

**Parentheses**

2. What is the second step?

## Exponents

3. What is the third step?

**Multiplication and Division**

4. What is the fourth step?

**Addition and Subtraction**

The steps in the PEMDAS order of operations are: Parentheses, Exponents, Multiplication, Division, Addition, Subtraction.

**Which operation should be performed first in the expression  $8 + (3 \times 2)^2$ ?**

undefined. A) Addition

undefined. B) Multiplication

undefined. C) Exponentiation

**undefined. D) Parentheses ✓**

The first operation to be performed is the one inside the parentheses.

## Part 2: Application and Analysis

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**What is the result of the expression  $7 + 3 \times (10 - 4)^2 \div 2$ ?**

undefined. A) 52

**undefined. B) 61 ✓**

undefined. C) 73

undefined. D) 85

The result of the expression is 61.

**Which of the following expressions equal 50? (Select all that apply)**

**undefined. A)  $5 \times (8 + 2)$  ✓**

**undefined. B)  $(100 \div 2) + 5$  ✓**

**undefined. C)  $10 \times 5$  ✓**

undefined. D)  $60 - (2 \times 5)$

The expressions that equal 50 are A, B, and C.

Calculate the value of the expression  $2 \times (3 + 5) - 4^2$  and explain each step.

The value of the expression is 2, and each step involves following the order of operations.

In the expression  $2 \times [3 + (4 \times 2) - 5]^2$ , which operation is performed last?

undefined. A) Multiplication

undefined. B) Addition

undefined. C) Exponentiation ✓

undefined. D) Subtraction

The last operation performed is exponentiation.

Identify the errors in the following solution:  $3 + 6 \times (5 + 4) \div 3 - 7 = 3 + 6 \times 9 \div 3 - 7 = 3 + 54 \div 3 - 7 = 3 + 18 - 7 = 14$ . (Select all that apply)

undefined. A) Incorrect multiplication ✓

undefined. B) Incorrect division

undefined. C) Incorrect subtraction

undefined. D) Incorrect order of operations ✓

The errors include incorrect multiplication and incorrect order of operations.

### Part 3: Evaluation and Creation

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Which expression will result in the highest value?

undefined. A)  $(2 + 3) \times 4^2$

undefined. B)  $2 + (3 \times 4)^2$  ✓

undefined. C)  $(2 \times 3 + 4)^2$

undefined. D)  $2 \times (3 + 4)^2$

The expression that results in the highest value is B.

Evaluate the following expressions and select those that are equivalent to 64. (Select all that apply)

undefined. A)  $4 \times (3 + 5)^2$  ✓

undefined. B)  $(8 \times 2)^2 \div 4$  ✓

undefined. C)  $2^6$  ✓

undefined. D)  $16 \times 4$  ✓

The expressions that are equivalent to 64 are A, B, C, and D.

**Create your own mathematical expression using the order of operations that results in 100. Explain the steps to solve it.**

**An example expression could be  $10 \times (5 + 5)$  and the steps involve following the order of operations.**

**Reflect on a real-world scenario where the order of operations is crucial. Describe the scenario and explain how you would apply the order of operations to solve a problem within it.**

**In finance, calculating interest involves the order of operations to ensure accurate results.**